

**IN THE CLAIMS**

The following is a complete, marked up listing of revised claims with a status identifier in parentheses, underlined text indicating insertions, and strikethrough and/or double-bracketed text indicating deletions.

**LISTING OF CLAIMS**

1. (Currently Amended) Equipment for purification of gases adapted to heat the gases in a regenerative process to oxidation or self-decomposition temperature comprising:

a combustion chamber having a temperature of at least the oxidation or self-decomposition temperature; a supply mechanism to mix reducing agents with the gases to form a mixture and to supply the mixture to said combustion chamber via at least one heat exchanging matrix;

said heat exchanging matrix including a first and a second portion, wherein said first portion is a catalytically active zone having a temperature below the oxidation [[of]] or self-decomposition temperature and that is catalytically active in promoting reduction of nitrogen, and said second portion is located between said combustion chamber and said first portion to form an intermediate zone.

2. (Previously Presented) Equipment for purification of gases adapted to heat the gases in a regenerative process to oxidation or self-decomposition temperature comprising;

a single heat exchanging matrix including two catalytically active zones separated from each other by an intermediate portion

a supply mechanism to mix reducing agents with gases to form a mixture and to supply the mixture to said heat exchanging matrix, and  
a heater arranged in said intermediate portion of said heat exchanging matrix and separated from each catalytically active zone by a respective intermediate zone, wherein each catalytic zone has a temperature below the oxidation or self-decomposition temperature.

3. (Previously Presented) Equipment according to claim 1, wherein the supply mechanism includes a duct, said duct adapted to supply the reducing agents that reduce nitrogen oxides to the matrix.

4. (Previously Presented) Equipment according to claim 3, further comprising  
a supply interrupt mechanism arranged and constructed to interrupt a supply of the reducing agents for a short period in connection with a change of direction of gas flow through the equipment.

5. (Cancelled)

6. (Previously Presented) Equipment according to claim 2, wherein the supply mechanism includes a duct, said duct adapted to supply the reducing agents that reduce nitrogen oxides to the matrix.

7. (Previously Presented) Equipment according to claim 6, further comprising a supply interrupt mechanism arranged and constructed to interrupt a supply of the reducing agent for a short period in connection with a change of direction of gas flow through the equipment.

8. (Cancelled)

9. (Previously Presented) Equipment according to claim 3, wherein the zones are arranged such that gas flowing through the equipment encounters the catalytic zone before the combustion zone.

10. (Previously Presented) Equipment according to claim 6, wherein the zones are arranged such that gas flowing through the equipment encounters the catalytic zone before the combustion zone.

11. (Previously Presented) Equipment according to claim 1, wherein the matrix is arranged such that the gas can flow in a first direction in which the gas encounters the catalytic zone before combustion zone and such that the gas can flow in a second direction in which the gas encounters the combustion zone before it encounters the catalytic zone.

12. (Previously Presented) Equipment according to claim 11, wherein the equipment is adapted such that the gas flows only one direction at a time.

13. (Previously Presented) Equipment according to claim 16, wherein the supply mechanism includes a duct, said duct adapted to supply reducing agents that reduce nitrogen oxides to the matrix.

14. (Previously Presented) Equipment according to claim 13, further comprising a supply interrupt mechanism arranged and constructed to interrupt a supply of the reducing agent for a short period in connection with a change of direction of gas flow through the equipment.

15. (Previously Presented) Equipment according to claim 11, wherein the supply mechanism includes a duct for providing a supply of the reducing agents wherein the matrix is arranged such that the gas flows only one direction at a time and the duct is adapted to maintain a supply of the reducing agents only when the gas flows in the first direction.

16. (Previously Presented) Equipment for purification of gases comprising: at least one heat exchanging matrix, said matrix adapted to heat the gases in a regenerative process to oxidation or self-decomposition temperature and a catalytic process, the at least one heat exchanging matrix including at least three zones, at least one zone is a catalytic zone having a temperature below the oxidation or self-decomposition temperature that is catalytically active in promoting reduction of nitrogen oxides, and at least one zone is a combustion zone, having a temperature of at least the oxidation or self-decomposition temperature, each said catalytic zone is separated from each said combustion zone by an intermediate matrix zone counted in the direction of flow, wherein an Intermediate matrix

zone has a temperature reducing effect on said mixture prior to entering the catalytic zone; and

a supply mechanism to mix reducing agents with the gases to form a mixture and to supply the mixture to the at least one heat exchanging matrix.

17. (Previously Presented) Equipment for purification of gases comprising:  
a single heat exchanging matrix, said matrix adapted to heat the gases in a regenerative process to oxidation or self-decomposition temperature, the heat exchanging matrix including two catalytic zones that are catalytically active and situated on each side of a center combustion zone of the matrix and at least one intermediate matrix zones, each catalytic zone is separated from the center combustion zone by said at least one intermediate zones counted in the direction of flow, wherein said intermediate matrix zone has a temperature reducing effect on mixture gases prior to entering the catalytic zone and each catalytic zone has a temperature below the oxidation or self-decomposition temperature; and  
a supply mechanism to mix reducing agents with the gases to form a mixture and to supply the mixture to the single heat exchanging matrix.